

CLAIMS

1. (currently amended) A method by which a fluid heat reactive resin system is formulated and configured below the melting temperature of a base resin ~~and cured~~ comprising the steps of:
 - introducing the base resin and a curing agent for the resin into a pressure vessel;
 - introducing a liquefiable gas and a plasticizer or high boiling solvent into the pressure vessel;
 - adjusting the temperature and pressure within the vessel to the supercritical range of the liquefiable gas;
 - solvating the resin and dispersing the curing agent ~~in the gas that is in the supercritical range~~;
 - slowly reducing the pressure within the vessel to essentially atmospheric pressure;
 - discharging a fluid heat reactive resin mixture from the vessel and
 - maintaining the heat reactive resin in a fluid state for a transient processing time.
2. (Currently amended.) A method according to Claim 1 wherein the discharged fluid heat reactive resin system is coated over a substrate during the transient heat processing time.
3. (original) A method according to Claim 1 wherein the fluid heat reactive resin system is converted into a powder.
4. (original) A method according to Claim 2 wherein the fluid heat reactive resin is cured at low temperatures below about 140° C.
5. (original) A method according to Claim 1 wherein other ingredients selected from the class consisting of curing agents, pigments, additives are introduced into the pressure vessel and dispersed in the solvated resin.
6. (original) A method according to Claim 1 wherein the fluid heat reactive resin is configured by calendaring.
7. (original) A method according to Claim 1 wherein the fluid heat reactive resin is configured in a mold.
8. ~~(cancelled)~~ A method according to Claim 1 wherein the fluid heat reactive resin system is maintained in ~~a fluid state~~ for a transient processing time by the inclusion of a plasticizer or high boiling solvent in the heat reactive system.
9. (original) A process according to Claim 1 in which enough pressure is maintained in the vessel when the pressure is reduced to aid in discharging the fluid heat reactive resin.
10. (original) A process according to Claim 1 wherein the resin has a molecular weight (M_n) in the range of 400-100,000.

11. (original) A process according to Claim 1 wherein the gas is carbon dioxide.

12. (original) A process according to Claim 1 wherein two pressure vessels are used in tandem, alternately transferring the liquefied gas from one vessel to the other.

13. (withdrawn) A resin dispersion prepared by:

charging a resin mixture and a plasticizer for the resin into a pressure vessel;
introducing a liquefiable gas into the pressure vessel and adjusting the temperature and pressure within the pressure vessel to a supercritical range for the liquefiable gas;
solvating the resin and dispersing the resin mixture in the liquefiable gas in the supercritical range;

slowly reducing the pressure in the vessel to approximately atmospheric pressure;

discharging an unfoamed fluid resin dispersion from the vessel;

configuring the fluid resin dispersion; and

curing the configured resin dispersion at a temperature below about 140° C.

14. (withdrawn) A method according to Claim 13 wherein the plasticizer is present in an amount between about 1 wt% and 25 wt %.

15. (withdrawn) A method according to Claim 13 wherein the plasticizer is a high boiling solvent.

16. (withdrawn) A method according to Claim 13 wherein fluid resin dispersion is configured over a substrate.

17. (withdrawn) A method according to Claim 16 in which the substrate is wood, plastic or paper.

18. (withdrawn) A method according to Claim 13 wherein the fluid resin dispersion is configured by spraying it over a substrate.

19. (withdrawn) A method according to Claim 13 wherein the fluid resin dispersion is configured by applying it to a substrate by dip coating.

20. (withdrawn) A method according to Claim 13 wherein the fluid resin dispersion is configured by converting it into a powder.

21. (new): A method according to Claim 1 in which the plasticizer or high boiling solvent is mineral spirits.

22. (new) A method according to Claim 21 in which the plasticizer or mineral spirits is present in an amount less than 10% by weight.